

NATURAL RESOURCES CONSERVATION SERVICE CONSERVATION PRACTICE STANDARD

FOREST TRAILS AND LANDINGS

(Ft. and Ac.)

CODE 655

DEFINITION

A temporary or infrequently used route, path or cleared area.

PURPOSE

- Provide routes for temporary or infrequent travel by people or equipment for management activities.
- Provide periodic access for removal and collection of forest products.

CONDITIONS WHERE PRACTICE APPLIES

Trails and landings including skid trails are applicable on forest land. They typically connect to an Access Road - 560.

CRITERIA

General Criteria Applicable To All Purposes

NRCS personnel are encouraged to work closely with WV Division of Forestry personnel and the NRCS staff forester when utilizing this practice.

Trails and landings will be of a size, gradient, number and location to accomplish the intended purpose. Avoid locating trails and landings on poorly suited soils of low-bearing strength and sites such as wetlands, riparian areas, critical wildlife habitat, or other environmentally sensitive areas. Locate trails on the contour to the greatest extent possible and incorporate breaks in grade (rolling dips or rolled grades) for trails on slopes. Skid logs uphill (with front ends off the ground) as practicable to minimize mechanical displacement of soil. Trails and landings will be set back from water bodies and water courses. Stream Crossings, if necessary, will be minimized in size and number.

Assure safe ingress and egress from trails and landings to junctions with access roads. Refer to the practice standard Access Road-560, for travel-ways including logging spur roads needing construction design and possibly surfacing to accommodate frequent, intensive, or repeated vehicular traffic.

Trails and landings shall be located and minimized in number and size to reduce adverse onsite and off-site impacts such as accelerated erosion, slope failure, water quality and riparian area degradation, stream channel and streambank damage, hydrologic modification, aesthetics, unacceptable damage to advance regeneration or residual growing stock, or fragmentation of wildlife habitat.

Those trails and landings intended or anticipated for management activities in subsequent years shall be designated for reuse to minimize the need for new trails and landings and associated site impacts.

Timing and use of equipment shall be appropriate for site and soil conditions to maintain site productivity and minimize soil rutting, erosion, displacement and compaction.

Drainage and erosion control measures shall be integrated with trails and landings and located to minimize detrimental effects of concentrated flow, erosion and sedimentation rates both during and after trail/landing use. After usage, stream crossings will be restored and stabilized. Refer to applicable drainage and erosion-sedimentation prediction technology and practice standards such as Critical Area Planting-342, Structure for Water Control-587, Stream Crossing-578 and Mulching-484, as well as state forestry Best Management Practices.

NRCS, NHCP
September 2011

Conservation practice standards are reviewed periodically and updated if needed. To obtain the current version of this standard, contact your Natural Resources Conservation Service [State Office](#) or visit the [Field Office Technical Guide](#).

NRCS, WV
November 2012

At a minimum, comply with applicable federal, state and local laws and regulations during the installation, operation and maintenance of this practice.

See Field Office Technical Guide Reference - Best Management Practices for Controlling Soil Erosion and Sedimentation from Logging Operations in West Virginia (WVDOF -TR-96-3 (most current version)).

<http://www.wvforestry.com/BMP%20Book%202009.pdf>

The landowner or operator is responsible for securing all required permits or approvals and for performing all planned work in accordance with such laws and regulations. NRCS employees are not to assume responsibility for procuring these permits, rights, or approvals, or for enforcing laws and regulations. NRCS may provide the landowner or operator with technical information needed to obtain the required rights or approvals to construct, operate and maintain the practice.

Permits may be required from the following agencies especially when crossing or removing obstructions within the boundaries of a stream or floodplain or if burning is required:

- **WV Division of Forestry**
- **US Army Corps of Engineers**
- **WV Department of environmental Protection**
- **Division of Natural Resources**
- **Public Land Corporation**
- **US Fish and Wildlife Service**
- **Local, state and county ordinances**

All required permits shall be approved before construction begins.

Water bars, broad-based dips and other drainage measures shall be of sufficient size, intervals and gradient for adequate drainage and erosion control.

NOTE: Detailed specifics from this publication are included in the West Virginia Job Sheet, Forest Trails and Landings - 655.

Use soils, topographic, aerial, conservation plan maps, and field reconnaissance to assist in preliminary layout. Southern exposures are generally best.

Roads, skid trails, and landings should not be located within filter stream management zones except when roads enter and leave stream crossings. If streams must be crossed, they should be crossed at right angles if at all possible.

CONSIDERATIONS

Consider impacts to wildlife from increased fragmentation of the forest stand. Creation of openings can benefit some wildlife species (e.g., early successional and edge species) yet be detrimental to others (e.g., forest interior species).

Trails and landings, particularly after usage, may be utilized and managed for wildlife **(including pollinators)** food and cover plantings. Refer to appropriate wildlife habitat practice standards, e.g., Upland Wildlife Habitat Management - 645, and Early Successional Habitat Development/ Management - 647. **Consider species for revegetation which benefit wildlife, including pollinators. Refer to Conservation Cover - 327.**

Properly located trails and landings of sufficient width and location may be utilized and managed as firebreaks.

Favor native species for revegetating trails and landings. Measures will be used to protect against invasive species.

Locate landings and trails to preserve aesthetic qualities.

Landings and trails may be closed for erosion control, safety and liability, and reduced maintenance costs. See Access Control – 472.

PLANS AND SPECIFICATIONS

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, technical notes and narrative statements in the conservation plan, or other acceptable documentation.

Specifications for revegetation of landings and trails should include species, timing and method of application. See conservation practice standards for Critical Area Planting - 342 and Mulching - 484.

The following will be identified (as appropriate):

- **Purpose of the forest trail and landing**
- **Field location / Plan view**
- **Streamside management zone / Shade strip location / Treatment**
- **Length and width of trails and landings**
- **Slope calculations**
- **Design calculations (Culverts, etc.)**
- **Seeding / mulching specifications**
- **Any relevant environmental documentation including but not limited to the WVCPA-052 or similar form**
- **Operation and maintenance requirements**

Provide the cooperator with the following:

- **Location of roads, trails, and landings**
- **Location, number and size of culverts**
- **Location and type of water control measures**
- **Width of streamside management zones / shade strips**
- **Seeding / mulching specifications**
- **Operation and maintenance requirements**

OPERATION AND MAINTENANCE

Regular and timely inspections for adverse effects will be conducted with trails and landings and associated measures maintained or restored as necessary.

Trails and landings utilized and managed as firebreaks will be properly maintained to accomplish this purpose while maintaining acceptable mitigation of other concerns.

Access to trails and landings shall be controlled when and where needed for erosion abatement, safety and liability, and reduced maintenance costs. Refer to the practice standard Access Control-472 as needed.

Trails and landings no longer needed may be decommissioned. Refer to the practice standard Road/Trail/Landing Closure and Treatment-654, as needed.

Periodic inspections of landings and trails will be conducted and where necessary repairs will be made.

Landings and trails utilized as firebreaks will be properly maintained to accomplish this purpose.

Landings and trails may be closed for erosion control, safety and liability, and reduced maintenance costs. Refer to the standard Use Exclusion, code 472.

Traffic control is recommended to prevent road damage especially between December and April.

Landings and trails no longer needed, and not used as a firebreak, can be retired ***by removing high maintenance structures, such as culverts and bridges, and can be restored to a vegetative cover by planting and seeding.***

Mowing helps to maintain grass cover and prevents vegetation from crowding roadways.

REFERENCES

Garland, John. 1997. Designated Skid Trails Minimize Soil Compaction. Woodland Workbook, Oregon State University Extension Service, EC1110.

University of Minnesota. 2002. Broad-Based Dips. Forest Management Practices Fact Sheet #6, Managing Water Series.

Hartung, R.D., and Kress, J.M., Woodlands of the Northeast, Erosion and Sediment Control Guides, 1977, USDA Soil Conservation Service Northeast Technical Service Center and USDA Forest, Service State and Private Forestry, Broomall, PA.

Hausman, R.F., and Pruett, E.W., Permanent Logging Roads for Better Woodlot Management, 1973, USDA Forest Service, State and Private Forestry, Upper Darby, PA.

Kochenderfer, J. N., Erosion Control on Logging Roads in the Appalachians, 1970, USDA Forest Service Research Paper NE-158, Northeast Forest Experiment Station, Upper Darby, PA.

West Virginia Division of Forestry, Best Management Practices for Controlling Soil Erosion and Sedimentation from Logging Operations in West Virginia, WVDOF-TR-96-3 Field Office Technical Guide Reference.

<http://www.wvforestry.com/BMP%20Book%202009.pdf>

West Virginia Division of Forestry, Water Resources Section of the Division of Natural Resources, West Virginia Silvicultural Water Quality Management Plan, DOF-TR-89-6.

****Bold italics indicate changes made or information added to the national standard by West Virginia.***